



## GUIDELINES AND RECOMMENDATIONS

### Updated Infection Control Measures for the Prevention and Control of Influenza in Health-Care Facilities

January 20, 2005

#### Introduction

Influenza is a cause of respiratory illness that may require outpatient health-care visits and hospitalization. During the influenza season, outbreaks of health care-associated influenza affect both patients and personnel in long-term care facilities and hospitals. Although influenza vaccination of health-care personnel and long-term care facility residents can help prevent outbreaks, this year's shortfall in vaccine production may require increased reliance on other measures to prevent transmission. This document provides updated guidance for prevention and control of influenza transmission in health-care facilities. In addition, it provides electronic links to interim recommendations specific for the 2004-05 influenza season.

#### Transmission

Human influenza is transmitted from person-to-person primarily via virus-laden large droplets (particles  $>5\ \mu\text{m}$  in diameter) that are generated when infected persons cough or sneeze; these large droplets can then be directly deposited onto the mucosal surfaces of the upper respiratory tracts of susceptible persons who are near (e.g., within 3 feet) the droplet source. Transmission may also occur through direct and indirect contact with respiratory secretions. Transmission from environmental surfaces has not been demonstrated by epidemiologic studies.

#### Prevention and Control Measures

Strategies for the prevention and control of influenza in health-care facilities include the following: influenza immunization for persons at high risk for complications, immunization for health-care personnel, respiratory hygiene/cough etiquette programs, Standard Precautions and Droplet Precautions, and restriction of ill visitors and personnel.

#### Vaccination

Health-care personnel and persons at high risk for complications of influenza should be encouraged to receive influenza vaccination according to current national recommendations

([www.cdc.gov/flu/protect/whoshouldget.htm](http://www.cdc.gov/flu/protect/whoshouldget.htm)).

- Vaccination is the primary measure to prevent infection or development of illness from influenza, and thereby limit transmission of influenza, and prevent complications from influenza.
- Inactivated influenza vaccine or live attenuated influenza vaccine may be used to vaccinate most health care personnel.
  - **Inactivated vaccine** may be used by all health-care personnel and is preferred for vaccinating health-care personnel who have close contact with severely immunosuppressed persons (e.g., patients with hematopoietic stem cell transplants) during those periods in which the immunosuppressed person requires care in a protective environment.
  - **Live attenuated vaccine (LAIV)** may be given to health-care personnel younger than 50 years of age who do not have contraindications to receiving the nasal vaccine. These health-care personnel include those who take care of immunocompromised patients who do not require care in a protective environment. If health-care personnel who care for severely

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immunocompromised patients in protected environments receive LAIV, then they should not care for these patients for 7 days following immunization.

### ***Infection Control Measures***

In addition to influenza vaccination, the following infection control measures are recommended to prevent person-to-person transmission of influenza and to control influenza outbreaks in health-care facilities:

#### **1. Respiratory Hygiene/Cough Etiquette Programs**

([www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm))

Respiratory hygiene/cough etiquette should be implemented at the first point of contact with a potentially infected person to prevent the transmission of all respiratory tract infections in health-care settings. Respiratory hygiene/cough etiquette programs include:

- Posting visual alerts instructing patients and persons who accompany them to inform health-care personnel if they have symptoms of respiratory infection.
- Providing tissues or masks to patients and visitors who are coughing or sneezing so that they can cover their nose and mouth.
- Ensuring that supplies for hand washing are available where sinks are located; providing dispensers of alcohol-based hand rubs.
- Encouraging coughing persons to sit at least 3 feet away from others, if possible.

#### **2. Standard Precautions** ([www.cdc.gov/ncidod/hip/isolat/std\\_prec\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/isolat/std_prec_excerpt.htm))

During the care of any patient with symptoms of a respiratory infection, health-care personnel should adhere to Standard Precautions:

- Wear gloves if hand contact with respiratory secretions or potentially contaminated surfaces is anticipated.
- Wear a gown if soiling of clothes with a patient's respiratory secretions is anticipated.
- Change gloves and gowns after each patient encounter and perform hand hygiene.
- Decontaminate hands before and after touching the patient, after touching the patient's environment, or after touching the patient's respiratory secretions, whether or not gloves are worn.
- When hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap (either plain or antimicrobial) and water.
- If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands in clinical situations. Alternatively, wash hands with soap (either plain or antimicrobial) and water.

#### **3. Droplet Precautions** ([www.cdc.gov/ncidod/hip/isolat/droplet\\_prec\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/isolat/droplet_prec_excerpt.htm))

In addition to Standard Precautions, health-care workers should adhere to Droplet Precautions during the care of a patient with suspected or confirmed influenza:

- Place patient into a private room. If a private room is not available, place (cohort) suspected influenza patients with other patients suspected of having influenza; cohort confirmed influenza patients with other patients confirmed to have influenza.
- Wear a surgical or procedure mask upon entering the patient's room or when working within 3 feet of the patient. Remove the mask when leaving the patient's room and dispose of the mask in a waste container.
- If patient movement or transport is necessary, have the patient wear a surgical or procedure mask, if possible.

#### **4. Antiviral Prophylaxis** ([www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm](http://www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm))

Antiviral prophylaxis may be given to patients, residents, and health-care personnel in accordance with current recommendations.

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### 5. Restrictions for Ill Visitors and Health-care Personnel

*If there is no or only sporadic influenza activity occurring in the surrounding community:*

- Discourage persons with symptoms of a respiratory infection from visiting patients. Inform the public about restricted visitation through educational activities.
- Evaluate health-care personnel with influenza-like illness and perform rapid influenza tests ([www.cdc.gov/flu/professionals/labdiagnosis.htm](http://www.cdc.gov/flu/professionals/labdiagnosis.htm)) to confirm the causative agent is influenza; determine whether they should be removed from duties that involve direct patient contact, especially those who work in certain patient-care areas (e.g., intensive care units [ICUs], nurseries, organ-transplant [protective environment]) units, and long-term care facilities. If excluded, they should not provide patient care for 5 days after the onset of symptoms.

*If widespread influenza activity is in the surrounding community:*

- Confirm that influenza is the cause of the outbreak by performing rapid or other influenza tests ([www.cdc.gov/flu/professionals/labdiagnosis.htm](http://www.cdc.gov/flu/professionals/labdiagnosis.htm)) on a subset of ill persons.
- Actively communicate to the public at large (e.g., via public service announcements) and visitors (e.g., via posted notices) not to visit for 5 days following the onset of a respiratory illness.
- In high-risk areas (e.g., ICUs, nurseries, and organ-transplant [especially protective environment] units, and long-term care facilities), actively screen unvaccinated health-care personnel for symptoms of respiratory infection and exclude those with symptoms for 5 days following the onset of symptoms.

### Control of Influenza Outbreaks in Health-care Settings

([www.cdc.gov/ncidod/hip/infect/flu\\_acute.htm](http://www.cdc.gov/ncidod/hip/infect/flu_acute.htm))

When influenza outbreaks occur in health-care settings, additional measures should be taken to limit transmission. These include:

- Identify influenza virus as the causative agent early in the outbreak by performing rapid influenza virus testing ([www.cdc.gov/flu/professionals/labdiagnosis.htm](http://www.cdc.gov/flu/professionals/labdiagnosis.htm)) of patients with recent onset of symptoms suggestive of influenza. In addition, obtain viral cultures from a subset of patients to determine the infecting virus type and subtype.
- Implement droplet precautions ([www.cdc.gov/ncidod/hip/isolat/droplet\\_prec\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/isolat/droplet_prec_excerpt.htm)) for all patients with suspected or confirmed influenza.
- Separate suspected or confirmed influenza patients from asymptomatic patients.
- Restrict staff movement from areas with outbreaks to other units and buildings.
- If available, administer the current season's influenza vaccine to unvaccinated patients, residents, and health-care personnel. Follow current vaccination recommendations ([www.cdc.gov/flu/protect/whoshouldget.htm](http://www.cdc.gov/flu/protect/whoshouldget.htm)) for nasal and intramuscular influenza vaccines.
- Administer influenza antiviral prophylaxis and treatment ([www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm](http://www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm)) to patients, residents, and health-care personnel according to current recommendations.
- Consider antiviral prophylaxis for all health-care personnel, regardless of their vaccination status, if the outbreak is caused by a variant of influenza virus that is not well matched by the vaccine.
- Curtail or eliminate elective medical and surgical admissions and restrict cardiovascular and pulmonary surgery to emergency cases only, when influenza outbreaks, especially those characterized by high attack rates and severe illness, occur in the community or acute care facility.

### Prevention and Control of Influenza in Peri- and Postpartum Settings

([www.cdc.gov/flu/professionals/infectioncontrol/peri-post-settings.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/peri-post-settings.htm))

Pregnant women are at increased risk of hospitalization from influenza complications. Recommendations for preventing influenza transmission between hospitalized infected mothers and their infants have been developed for clinicians and public health officials.

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### Additional Resources

The following resources provide information about preventing the spread of influenza in health-care facilities:

#### Guidance Documents

- Questions and Answers About Detection and Control of Influenza Infection in Acute Care Facilities ([www.cdc.gov/ncidod/hip/infect/flu\\_acute.htm](http://www.cdc.gov/ncidod/hip/infect/flu_acute.htm))
- Respiratory Hygiene/Cough Etiquette ([www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm))
- Isolation Guideline ([www.cdc.gov/ncidod/hip/isolat/isolat.htm](http://www.cdc.gov/ncidod/hip/isolat/isolat.htm))
  - Standard Precautions excerpt ([www.cdc.gov/ncidod/hip/isolat/std\\_prec\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/isolat/std_prec_excerpt.htm))
  - Droplet Precautions excerpt ([www.cdc.gov/ncidod/hip/isolat/droplet\\_prec\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/isolat/droplet_prec_excerpt.htm))
- Pneumonia Guideline, Influenza excerpt ([www.cdc.gov/ncidod/hip/infect/flu\\_pneu\\_excerpt.htm](http://www.cdc.gov/ncidod/hip/infect/flu_pneu_excerpt.htm))
- Infection Control in Healthcare Personnel, Influenza excerpt ([www.cdc.gov/ncidod/hip/guide/infectcont98.htm](http://www.cdc.gov/ncidod/hip/guide/infectcont98.htm))
- Prevention and Control of Influenza in the Peri- and Postpartum Settings ([www.cdc.gov/flu/professionals/infectioncontrol/peri-post-settings.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/peri-post-settings.htm))
- Preventing Opportunistic Infections in HCST/Bone Marrow Transplant Recipients ([www.cdc.gov/ncidod/hip/guide/marrow.htm](http://www.cdc.gov/ncidod/hip/guide/marrow.htm))
- Settings Where High-Risk Persons and Their Contacts May Be Targeted For Vaccination ([www.cdc.gov/flu/professionals/infectioncontrol/settings.htm](http://www.cdc.gov/flu/professionals/infectioncontrol/settings.htm))
- Healthcare Infection Control Practices Advisory Committee (HICPAC) Publications ([www.cdc.gov/ncidod/hip/guide/guide.htm](http://www.cdc.gov/ncidod/hip/guide/guide.htm))
- Bradley SF. Prevention of influenza in long-term-care facilities. Long-Term-Care Committee of the Society for Healthcare Epidemiology of America. Infect Control Hosp Epidemiol 1999;20: 629-37.

#### Educational Materials

- Cover Your Cough materials ([www.cdc.gov/flu/protect/covercough.htm](http://www.cdc.gov/flu/protect/covercough.htm))
- Speak-up™ Campaign ([www.cdc.gov/ncidod/hip/speakup.htm](http://www.cdc.gov/ncidod/hip/speakup.htm))
- Poster: Notice to Patients to Report Flu Symptoms ([www.cdc.gov/ncidod/hip/infect/respiratoryposter.pdf](http://www.cdc.gov/ncidod/hip/infect/respiratoryposter.pdf))
- Poster: Healthy Habits ([www.cdc.gov/flu/professionals/flugallery/posters.htm#healthyhabits](http://www.cdc.gov/flu/professionals/flugallery/posters.htm#healthyhabits))
- Information about personal protective equipment ([www.cdc.gov/ncidod/hip/ppe](http://www.cdc.gov/ncidod/hip/ppe))

For more information, visit [www.cdc.gov/flu](http://www.cdc.gov/flu), or call CDC at 800-CDC-INFO (English and Spanish) or 800-243-7889 (TTY).

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